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United States Patent

[19]

Timmers et al.**[11] Patent Number:** **5,527,929****[45] Date of Patent:** **Jun. 18, 1996****[54] ZWITTERIONIC BISCYCLOPENTADIENYL COMPLEXES****[75] Inventors:** **Francis J. Timmers; David D. Devore,**
both of Midland, Mich.**[73] Assignee:** **The Dow Chemical Company,**
Midland, Mich.**[21] Appl. No.:** **482,135****[22] Filed:** **Jun. 7, 1995****Related U.S. Application Data****[60]** Division of Ser. No. 481,791, Jun. 7, 1995, which is a continuation-in-part of Ser. No. 284,925, Aug. 2, 1994, abandoned.**[51] Int. Cl.⁶** **C07F 17/00; C07F 7/00;**
B01J 31/00**[52] U.S. Cl.** **556/7; 556/11; 556/2;**
556/28; 556/53; 502/152; 502/158; 526/134;
526/160; 526/162; 526/348; 526/943**[58] Field of Search** **556/7, 11, 12,**
556/28, 53**[56] References Cited****U.S. PATENT DOCUMENTS**

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[57] ABSTRACT

Zwitterionic biscyclopentadienyl, Group 4 transition metal complexes formed with conjugated dienes useful as catalysts for polymerizing olefins, diolefins and/or acetylenically unsaturated monomers.

3 Claims, No Drawings

Zwitterionisch. Biscyclopentadienyl